**3GPP TSG-CT WG4 Meeting #110-eC4-223326**

**E-Meeting, 12th – 20th May 2022 Revision of C4-223026**

**Source: Samsung**

**Title: Updates to QoS Information in MBSTF APIs**

**Spec: 3GPP TS 29.581 v0.1.0**

**Agenda item: 6.1.16 / 5MBS**

**Document for: Approval**

**1. Introduction**

As per feedback from SA4 in LS S4-220575:

|  |
| --- |
| **Background:** It is CT4's understanding that not all the parameters defined in Table 4.5.6-1 need to be sent by the MBSF to the MBSTF as part of *Nmbstf\_MBSDistributionSession\_Create* request and many of these parameters are for the consumption of MBSF on other interfaces (e.g. towards MB-SMF); especially the following parameters:*MBS Session Context**QoS information***Question 5:** CT4 would like to request SA4 to confirm if CT4's understanding is correct. |

**SA4 Response:** SA4 confirms CT4’s general understanding. The MBS Distribution Session conceptual entity exists both in the MBSF and in the MBSTF, so not all parameters necessarily need to be passed from the former to the latter across Nmb2.

On the specific parameters mentioned:

- *MBS Session Context.* Figure 4.5.2-1 depicts a link from the MBS Distribution Session entity in the MBSF to the MBS Session Content entity in the MB-UPF which is not present for the MBS Distribution Session entity depicted inside the MBSTF on the right-hand side of the figure. CT4’s understanding that this parameter doesn’t need to be passed in the Nmbstf\_MBSDistributionSession\_Create service operation is therefore correct.

*- QoS information.* SA4 believes that the MBSTF needs this information in order to drive its packet pacing algorithm for the Object Distribution Method. In the case of the Packet Distribution Method, SA4 has agreed to make this an optional provisioning parameter both at reference point Nmb10/Nmb5 and at Nmb2. However, SA4 would like to point out that the MBSTF may still require information about QoS-related traffic marking (e.g. DSCP code point to be applied to multicast IP packets sent from the MBSTF to the MB-UPF at reference point Nmb9) to be passed to it using this parameter. Hence, the QoS information passed at reference point Nmb2 may differ from that provided at Nmb10/Nmb5. SA4 has agreed to clarify the description of this parameter in table 4.5.6‑1.

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The changes are accordingly proposed to TS 26.502 in S4-220568.

This pCR proposes corresponding changes in MBSTF data-model.

**2. Proposal**

It is proposed to agree the following changes to 3GPP TS 29.581 v0.1.0.

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\* \* \* \* Start of Changes \* \* \* \*

#### 6.1.6.1 General

This clause specifies the application data model supported by the API.

Table 6.1.6.1-1 specifies the data types defined for the Nmbstf\_MBSDistributionSession service based interface protocol.

Table 6.1.6.1-1: Nmbstf\_MBSDistributionSession specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Clause defined | Description | Applicability |
| CreateReqData | 6.1.6.2.2 | Data within the Create Request |  |
| CreateRspData | 6.1.6.1.3 | Data within the Create Response |  |
| DistSession | 6.1.6.2.4 | Data specific to distribution session |  |
| ObjDistributionData | 6.1.6.2.5 | Data specific to Object Distribution Method |  |
| PktDistributionData | 6.1.6.2.6 | Data specific to Packet Distribution Method |  |
| StatusSubscribeReqData | 6.1.6.2.7 | Data within Subscription creation request |  |
| StatusSubscribeRspData | 6.1.6.2.8 | Data within Subscription creation response |  |
| StatusNotifyReqData | 6.1.6.2.9 | Data within Notification request |  |
| DistSessionSubscription | 6.1.6.2.10 | Data specific to subscription request |  |
| DistSessionEventReportList | 6.1.6.2.11 | MBS distribution session event report list |  |
| DistSessionEventReport | 6.1.6.2.12 | MBS distribution session event report |  |
|  |  |  |  |
| DistSessionState | 6.1.6.3.3 | MBS distribution session state |  |
| ObjDistributionOperatingMode | 6.1.6.3.4 | Operating Mode for Object distribution method |  |
| ObjAcquisitionMethod | 6.1.6.3.5 | Object acquisition method |  |
| PktDistributionOperatingMode | 6.1.6.3.6 | Operating Mode for Packet distribution method |  |
| DistSessionEventType | 6.1.6.3.7 | MBS distribution session event type |  |

Table 6.1.6.1-2 specifies data types re-used by the Nmbstf\_MBSDistributionSession service based interface protocol from other specifications, including a reference to their respective specifications and when needed, a short description of their use within the Nmbstf\_MBSDistributionSession service based interface.

Table 6.1.6.1-2: Nmbstf\_MBSDistributionSession re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| TunnelAddress | 3GPP TS 29.571 [16] | Tunnel Address (UDP/IP) |  |
| Tmgi | 3GPP TS 29.571 [16] | TMGI |  |
| 5Qi | 3GPP TS 29.571 [16] | 5QI |  |
| BitRate | 3GPP TS 29.571 [16] | Bit Rate |  |
| PacketDelBudget | 3GPP TS 29.571 [16] | Maximum Delay |  |
| Uri | 3GPP TS 29.571 [16] | Uniform resource identifier |  |
| DateTime | 3GPP TS 29.571 [16] | Data and Time |  |
| NfInstanceId | 3GPP TS 29.571 [16] | NF Instance Identifier |  |

\* \* \* \* Next Change \* \* \* \*

##### 6.1.6.2.4 Type: DistSession

Table 6.1.6.2.4-1: Definition of type DistSession

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| distSessionId | string | M | 1 | An identifier for this MBS Distribution Session that is unique within the scope of the MBS User Service (see clause 4.5.3 of 3GPP TS 26.502) |  |
| distSessionState | DistSessionState | M | 1 | The current state of the MBS Distribution Session(see clause 4.6.1 of 3GPP TS 26.502) |  |
| mbUpfTunAddr | TunnelAddress | C | 0..1 | The tunnel endpoint address of the MB‑UPF that supports this MBS Distribution Session at reference point Nmb9FFS: 26.502 marks it mandatory, whereas it should be conditional (not needed if MB-UPF performs join towards MBSTF)? |  |
| mbUpfTrafficFlowInfo | FFS | C | 1 | Details of the traffic flow to be used by the MBSTF for this MBS Distribution Session, including the multicast group destination address and port numberFFS: Should be SSM & port number? |  |
| tmgi | Tmgi | O | 0..1 | The Temporary Mobile Group Identity (TMGI) of the MBS Session supporting the parent MBS Distribution Session |  |
| 5qi | 5Qi | C | 0..1 | A 5G QoS Identifier (5QI) to be applied to the traffic flow for this MBS Distribution Session. It shall be present for Object Distribution Method and may be present for Packet Distribution Method. |  |
| mbr | BitRate | M | 1 | The maximum bit rate for this MBS Distribution Session |  |
| maxDelay | PacketDelBudget | O | 0..1 | The maximum end-to-end distribution delay that is tolerated for this MBS Distribution Session by the MBS Application Provider |  |
| objDistributionData | ObjDistributionData | C | 0..1 | Additional MBS Distribution Session parameters for Object Distribution Method [NOTE 1] |  |
| pktDistributionData | PktDistributionData | C | 0..1 | Additional MBS Distribution Session parameters for Packet Distribution Method [NOTE 1] |  |
| fecInformation | FFS | O | 0..1 | FFS: Is this a URI? |  |
|  |  |  |  |  |  |
| dscpMarking | string | O | 0..1 | DSCP Marking to be applied to outgoing traffic.It shall be encoded as two octet string in hexadecimal representation. The first octet shall contain the DSCP value in the IPv4 Type-of-Service or the IPv6 Traffic-Class field and the second octet shall contain the ToS/Traffic Class mask field, which shall be set to "0xFC". |  |
| NOTE 1: Either the objDistributionData IE or the pktDistributionData IE shall be present in a request/response. |

Editor's Note: Whether attributes in the distSession should be defined as write-only or read-only is FFS.

\* \* \* \* Next Change \* \* \* \*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

\* \* \* \* Next Change \* \* \* \*

# A.2 Nmbstf\_MBSDistributionSession API

openapi: 3.0.0

info:

 title: Nmbstf-distsession

 version: 1.0.0-alpha.1

 description: |

 MBSTF Distribution Session Service.

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externalDocs:

 description: 3GPP TS 29.581, MBSDistribution Service, version 0.1.0.

 url: http://www.3gpp.org/ftp/Specs/archive/29\_series/29.581/

servers:

 - url: '{apiRoot}/nmbstf-distsession/v1'

 variables:

 apiRoot:

 default: https://example.com

 description: apiRoot as defined in clause 4.4 of 3GPP TS 29.501

security:

 - {}

 - oAuth2ClientCredentials:

 - nmbstf-distsession

…

…

[skipped for clarity]

 DistSession:

 description: Mbs Distribution Session Information

 type: object

 properties:

 distSessionId:

 type: string

 distSessionState:

 $ref: '#/components/schemas/DistSessionState'

 mbUpfTunAddr:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/TunnelAddress'

 mbUpfTrafficFlowInfo:

 type: string

 tmgi:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Tmgi'

 5qi:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/5Qi'

 mbr:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'

 maxDelay:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/PacketDelBudget'

 objDistributionData:

 $ref: '#/components/schemas/ObjDistributionData'

 pktDistributionData:

 $ref: '#/components/schemas/PktDistributionData'

 fecInformation:

 type: string

 dscpMarking:

 type: string

 required:

 - distSessionId

 - distSessionState

 - mbr

 oneOf:

 - required: [ objDistributionData ]

 - required: [ pktDistributionData ]

…

…

[skipped for clarity]

\* \* \* \* End of Changes \* \* \* \*